

Abstract

A highly sensitive assay is disclosed which utilizes a method for gene specific primed amplification of mRNA libraries from rare cells and rare transcripts found in blood. The assay allows detection of rare mRNA (10 copies/cell) found in 1 to 10 cells isolated through immunomagnetic enrichment. The assay is an improvement over multiplex PCR and allows efficient detection of rare coding sequences for circulating carcinoma cells in the blood.

The methods are useful in profiling of cells isolated from tissues or body fluids and serves as an adjunct to clinical diagnosis of diverse carcinomas including early stage detection and classification of circulating tumor cells. Monitoring of nucleic acid and protein profiles of cells either in conventional or microarray formats, facilitates management of therapeutic intervention including staging, monitoring response to therapy, confirmation of remission and detection of regression.